THE

VETERINARY JOURNAL

Editor :

FREDERICK HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E.,
HONORARY VETERINARY SURGEON TO HIS MAJESTY THE KING,
OFFICIER DU MÉRITE AGRICOLE (FRANCE),
CAVALIERE DEI SS. MAURIZIO E LASSARO (ITALY),
HONORARY MEMBER OF THE AMERICAN VETERINARY ASSOCIATION,
PRINCIPAL OF THE ROYAL VETERINARY COLLEGE, LONDON.

Sub-Editor :

GLADSTONE MAYALL, M.R.C.V.S.

KANSAS STATE AGRICULTURAL COLLEGE
Jul 24 '30
LIBRARY

JUNE, 1930.

VETERINARY AID FOR THE SICK ANIMALS OF THE POOR.

No one will deny the statement that the animal of the poor owner is, when ill and helpless, as much morally entitled to proper care and treatment as the animal of the rich man ; and the words "*proper care*" and "*treatment*" can only imply one principle, viz. that the diagnosis of the ailments and the carrying out of the treatment is under veterinary supervision.

This has been acknowledged by the best of our Animal Aid Societies, the largest and most influential of which, The Royal Society for the Prevention of Cruelty to Animals, is at the present time negotiating plans with the Council of the Royal College of Veterinary Surgeons, whereby collaboration is obtained between the workers of this Society and veterinary surgeons.

According to the Report of the R.C.V.S. Council, which has been sent recently to every member on the Register, the negotiations are still pending, and it is sincerely hoped that some mutually agreeable settlement will soon be reached.

XUM

On Page 186 of the May issue it will be observed that a writer in the *Animal World*, the Hon. Mrs. Charlton, whose crusade against animal cruelty in the East is world-wide known, states when referring to animal humane work in Syria and to the formation of a Veterinary Hospital in Damascus, that "cruelty can only be alleviated by the labour of Veterinary Clinics." This has already been found to be the case in Algeria where the Society for the Protection of Animals in North Africa is doing such good work in collaboration with the members of the French veterinary profession.

Why is it that in England on the one hand a young man is encouraged to undergo the very stiff and expensive course of scientific study necessary to enable him to become qualified as a veterinary surgeon, and on the other hand there is no law to prevent any Tom, Dick or Harry from practising his ignorant and prentice hand on a helpless sick animal? The system is unjust and unfair to all parties, and especially to the sick patient; and it is time that our Council gave its serious consideration to the whole question.

General Articles

A NOTE ON THE INTERNAL PARASITES OF SHEEP IN S. RHODESIA.

By LL. E. W. BEVAN, M.R.C.V.S.,
Director of Veterinary Research
AND
D. A. LAWRENCE, B.V.Sc.,
Veterinary Research Officer, Department of Veterinary Research, Salisbury, S. Rhodesia.

DURING the course of recent investigations into the diseases of sheep in South Rhodesia numerous internal parasites have been encountered some of which have not been previously recorded in this Territory. The object of this note, therefore, is to bring the list up to date.

PARASITE.	LOCATION.
Oestrus ovis	Nasal cavities.
Paramphistomum sp.	Rumen.
Haemonchus contortus	Abomasum.
Trichostrongylus instabilis	Pylorus.
Gaigeria pachyscellis	Small intestine.
Bunostomum trigonocephalum ..	,, ,,
Oesophagostomum columbianum ..	Small and large intestine.
Stilesia hepatica	Liver and bile ducts.
Avitellina centripunctata	Small intestine.
Thysanosoma jiardi	,, ,,
Moniezia sp.	,, ,,
Stilesia globipunctata	,, ,,
Cysticercus tenuicollis	Peritoneal cavity.
Setaria labiato-papillosa	,, ,,
Echinococcus polymorphus	Liver and lungs.
Coccidia sp.	Small and large intestine.
Schistosoma (mattheei ?)	Mesenteric and portal veins.

With regard to coccidia it should be mentioned that although rare specimens had been encountered in the past during examination of fæces by the sugar flotation method, no lesions were found at autopsy which could be attributed to them. In recent post-mortem examinations, however, even in adult sheep, severe changes were noted in the large and small bowel, the mucous membranes being considerably

thickened, corrugated and in all ways similar to the lesions of coccidiosis in cattle. Sections of such pathological parts contained coccidia in vast numbers.

Schistosome ova were first observed during the examination of mucosa scrapings for the presence of coccidia, after which careful examination of the mesenteric and portal veins revealed the parasites. From their distribution and behaviour after death of the host, and from their general morphology it would appear that they are identical with *Schistosoma mattheei*, Veglia and Le Roux. (1929.)

A FEW OBSERVATIONS ON THE INCIDENCE OF TUBERCULOSIS OF THE UDDER IN COWS.*

By J. HOWARD JONES, O.B.E., M.R.C.V.S.,
Veterinary Officer under the Tuberculosis Order to the Glamorgan County Council.

THE main object of these observations is to point out the need that exists for the warning and the instruction of those milk producers who are not in possession of tubercle-free herds concerning this, the most dangerous aspect of bovine tuberculosis to public health.

This desire has arisen as the result of the following factors :—

(*a*) The detection of numerous cases of clinical tuberculosis of the udder in milking cows in various parts of Britain.

(*b*) Finding that the owners or persons in charge of animals so affected were so often completely ignorant and without suspicion of the cause of the condition, which was almost invariably obvious in its manifestation.

(*c*) The comparative facility with which the tubercle bacilli can be microscopically detected in milk drawn from tuberculous udders, and the small quantity of milk (a centrifuge tubeful only) which need be drawn from an affected quarter for this purpose—which facts appeal to the writer's mind as being direct evidence of the large numbers of the bacilli capable of being excreted in such cases.

For the occasion of these observations, we will place on one side the following facts :—

(1) That there is, unfortunately, a tremendous (and unknown) number of dairy cows in this country affected to some extent or other with tuberculosis.

* Reprinted from "The Welsh Journal of Agriculture," Vol. iii.

(2) That a cow affected to any extent with tuberculosis may, at any time, so develop the disease that she becomes capable of passing the bacilli in her milk (even without having shown the udder to be clinically affected).

We, therefore, proceed solely with the animal that is suffering from tuberculosis of the udder.

To give some concrete indication of the incidence of this danger to public health, and the milk producers' ignorance, apathy, or whatever term is appropriate, the following fact may bear evidence.

In a certain county, very largely agricultural, in the course of the last ten months, thirteen cows were found to be suffering from tuberculosis of the udder. This was the result of the inspection of only a fraction of the dairy cattle in the whole of that area. Each of these thirteen cows had recently been passing tuberculous milk, which had been disposed of commercially or used for domestic purposes, or the manufacture of milk products.

(In case the foregoing be considered exceptional, the writer would state his opinion, after several years' experience with tuberculous bovines in various parts of the country, that this occurrence took place in a district that is comparatively fairly free from bovine tuberculosis when compared with certain others in which he has had experience.)

Only in one of these thirteen cases mentioned did the responsible party suspect that tuberculosis may have been the cause of the abnormality present in the udder.

Some details of those cases may be of interest. As the result of a number (7) of pigs, all reared and fed upon the same farm, being found upon slaughter to be affected with tuberculosis, an inspection of the stock upon that farm was made, when the following cases of bovine tuberculosis were discovered :—

(1) A cow suffering from a typically tuberculous udder—the milk from which, it was admitted, had been fed to the pigs.
(2) A typically affected cow—the milk of which had recently been used to feed an infant of the person in charge, and subsequently, for the feeding of calves.
(3) In this case a calf was seen to be sucking a particularly well defined tuberculous quarter.
(4) A case of generalised tuberculosis, the udder being completely caseated or calcified in three of its quarters. This case had been producing milk which until recently had been disposed of commercially.

Tuberculosis of the udder is almost invariably the result of infection from another and previously involved organ. Whatever other lesions

there may have been present, in a very large number of *post-mortem* examinations made upon cows suffering from this form of disease, the mesenteric lymphatic glands were quite invariably found to be affected and in nearly every instance these glands were showing distinct calcification. In one of the cases mentioned, except for a very small and apparently recent lesion upon the peritoneum, the mesenteric glands alone, in addition to the very typical udder, showed any tuberculous changes, after the most exhaustive search throughout carcase and organs.

From the veterinarian and pathologist's point of view it is interesting to note how very infrequently, on *post-mortem* examination, is it found that the supra-mammary lymphatic gland is visibly affected in cases where the substance of the corresponding quarter is involved; and on the contrary, of course, instances do occur of the supra-mammary gland showing a caseating lesion whilst the udder is, at any rate, macroscopically, free, though milk from such an udder is always found infective bacteriologically.

Symptoms, etc.

The commonest characteristic of tuberculosis of the udder is that it is most frequently found to be affecting one hind quarter of the gland. A forequarter, the fore and hind quarters of the same side, both hind quarters, or any other combination may develop, but one hind quarter is by far the most usual. The development is gradual and diffuse, and to describe the development there is no term more fitting to the writer's mind than that of "insidious." There is, one may say, almost an absence of any positively clinical symptom manifesting itself clearly and unmistakably until the disease is well established. There is an enlargement taking place, very gradually during the first stages, and this is accompanied by an induration. These both frequently occur in the upper rather than the lower portion of the affected quarter, and they proceed fairly rapidly when once they have been established, so as to be observable to the eye and touch. It is difficult to give a reliable indication of the time occupied in this development, as there are no records or observations available, but the writer has seen a definite enlargement and a pronounced induration to have taken place in a quarter during the period of six weeks. At the commencement of that period the udder was apparently normal to sight and touch. At the end of that time a hind quarter was "swollen, tougher and fuller," as the cowman said when asked to describe what he could notice. Microscopic examination of the milk from that quarter showed tubercle bacilli to be present. With further progress the induration becomes marked and the affected part comes to feel as hard and stiff as wood,

XUM

and eventually as bone, and several cases in the writer's experience have had the feeling of complete calcification. Such were, of course, quite old standing cases.

Other characteristic symptoms of tuberculosis of the udder are, if one may say so, almost negative in their manifestation. The enlargement and induration occur without warning—there is, usually, the absence of the other signs of inflammation, viz. heat and pain. This is of value from the diagnostic point, since most other changes in the udder substance proclaim themselves by enlargement, heat and pain. Then again, the appearance of the milk from a tuberculous quarter is not altered until the disease is quite far advanced therein, and the amount of milk, at first, is only very slightly diminished. As the disease becomes well established the quantity lessens and it eventually may become thin and watery or in very chronic cases it becomes a liquid resembling urine in colour and consistency.

It will be found that in most cases the act of milking does not in any way relieve the swollen condition if due to tuberculosis, and it is usually more easily detected after milking than before, as the enlargement of the udder due to the presence of milk may slightly assist in hiding the abnormality and make the quarters more regular in size before milking commences, whereas the abnormality is disclosed by the organ being emptied of milk.

An animal's condition is not necessarily or specifically affected by the udder being affected with tuberculosis. The condition is far more likely to retrogress on account of lesions affecting other internal organs or parts which were probably, as has been shewn, affected prior to the udder being involved.

It is not to be wondered at, altogether then, that the unenlightened or apathetic person seldom has his suspicion aroused by the symptoms of tuberculosis of the udder *per se* and we are given to understand that a colossal number of children have suffered and died as a result of the consumption of milk thus produced.

Despite the recent enactments concerning the tuberculous cow and the purity of our milk supply, which only assist in the elimination of clinically affected cattle, nearly all of which are heavily infected, one longs to see some proof of the nation's encouragement to the production of milk from tubercle-free cows, and thereby the setting up of herds of cattle free from this disease.

It is readily admitted that this is an ideal entailing enormous expense and years of organised labour, but judged purely from the public health aspect, it appears to be absolutely essential, in the meantime, that health authorities undertake to have every milk-producing cow periodically examined by a qualified veterinary surgeon.

XUM

Clinical Articles

A Case of Splenectomy.

By J. McCUNN, C. FORMSTON AND R. MACHIN,
Royal Veterinary College, London.

PATIENT, a two-year-old Sealyham Bitch.

The patient was brought to the college with one week's history of continuous vomition. At first food was returned but later emesis became practically continuous, the vomica being of the nature of coffee grounds. There was complete anorexia but no undue thirst. Fluid excited vomition. Two days before admission diarrhœa supervened, the motion being watery, dark in colour and evil smelling. On examination the dog looked particularly dejected, it laid down on its stomach at every opportunity. It was unable to walk more than a few yards and it was very restless. Respirations and pulse were slightly accelerated but good in character. The temperature was slightly elevated, i.e. 102.5°. Visible mucous membranes slightly injected. On examination the abdomen was seen to be pendulous, rigid on palpation, palpation evincing some pain. A large doughy lump could be felt in the left epigastric region and extending towards the umbilicus. We were unable to estimate the nature of the lump. A tentative diagnosis was given in which opinions were equally divided as to tumour, intussusception or foreign body. It was decided to radiograph the patient.

X-rays did not help other than showing a dense opacity in the anterior half of the abdomen. In view of the rapid increase in the distressing symptoms an exploratory laparotomy was performed. It was at once noticed that the lump felt on examination was the spleen. The abdominal contents, with the exception of this organ, were found to be normal. The spleen was enlarged to three or four times its normal size and projecting from its surface were three tumours which varied in size from that of a walnut to that of a large pea. The large tumour was near the ventral end. It looked to be hæmorrhagic in character and the capsule over it was thin and rupture seemed imminent Splenectomy was decided upon. The gastro splenic omentum was raised and ligatured in sections, the splenic vessels being included in the ligatures. The spleen was removed and the abdomen closed.

The subsequent history was remarkable in that an uninterrupted recovery resulted. Vomition, diarrhœa, etc., ceased with the operation. The appetite almost immediately returned and the dog left hospital at ten days. The only complication was one small stitch abscess.

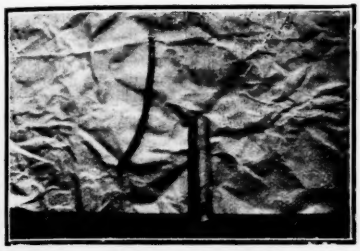
XUM

The recovery of this dog raises many questions, for at the time of the operation we did not think that the affection of the spleen could give rise to the train of symptoms evinced for they were more in the nature of those of some intestinal obstruction. What bearing has the spleen, in the normal or diseased state, on penstalsis for the cessation of diarrhœa immediately after splenectomy was remarkable.

Compound Fracture of Radius and Ulna.

By DAVID ERIC WILKINSON, M.R.C.V.S.,
Chigwell, Essex.

THE SUBJECT OF THE PHOTOGRAPHS.—On May 9th, 1930, this terrier sustained compound fracture of right ulna and compound comminuted fracture of right radius at their upper third the result of an attack by a Chow. Damage of soft tissues was extensive and followed by severe sloughing.



Perforated Drainage Tube and Zinc Splint.

Injecting Eusol into top of Irrigation Tube.

The Injured Limb exposed.

The limb was supported in a padded zinc "trough" splint, held in position by bandages into which an india rubber irrigation tube was inserted. By means of this the wound was irrigated with eusol many times daily.

On May 16th (eighth day from the accident), the wound having cleared of sloughing tissue and pus, the broken ends of the ulna were drilled and brought into apposition by a silver wire suture. As a portion of the radius $\frac{1}{4}$ in. in length had been broken out of this bone it was not possible to wire that also. The treatment by means of a well padded splint and bandages and irrigation by means of the perforated tube was continued, the

bandages and splint being removed daily and the tube sterilized by boiling.

The photographs were taken on May 27th, 18 days after the accident. The wound is healing well and a nice callus of new bone is palpable around the fractured ulna.

A Case of Fracture of the Lower Jaw.

By J. McCUNN AND C. FORMSTON,
Royal Veterinary College, London, N.W.1.

THE subject was a two-years-old black spaniel dog. It was sent into the Veterinary College by a practitioner, Mr. Holmes, of Wood Green.

The history was that the patient had been the unfortunate victim of a motor car.

On examination the lower jaw was found to be fractured through both horizontal rami in the region of the canine teeth. The detached part, including the body and incisor teeth was hanging suspended at right angles to the ramus.

It was decided to attempt repair, fixing the fracture by means of silver wire.

The Buccal mucous membrane was incised and the periosteum reflected. The bone was drilled in both sides as shown in the X-ray photo. The wire was inserted, twisted and fixed. The fracture was completely immobilised. Good apposition of the

fractured ends was obtained and the line of the jaw was good. The periosteum and buccal mucous membrane was sutured with catgut, completely burying the wire.

The jaw was not put into splints or fixed in any other way. In two days the patient was partaking of soft food. In seven days meat was allowed. The wounds healed by first intention and at 14 days the animal was discharged.

At the present moment, six months after the operation, the dog is quite normal. The wire will not be removed.

We are indebted to Mr. H. J. Ede, radiographer to the College, for his excellent X-ray help; and to Mrs. Bell, the canine nurse, for the care she took in the case.

Notes on Ascaris Lumbricoides in Pigs.

By E. F. BECKETT, M.R.C.V.S.,
Blandford.

THE infestation of swine by ascarides is one of the most serious conditions with which the breeder has to contend.

It is not proposed in this article to go into the life history of the parasite but it would be well to keep in mind the three stages, viz.: (1) the pre living stage; (2) the larval stage in the lungs, and (3) the adult stage in the intestines.

Pigs exhibit symptoms only when the parasites are present in large numbers. One is struck by the capricious appetite, dullness of the skin, enteritis, digestive disturbances, and a loss of condition, even in spite of heavy feeding.

" Thumps " in pigs is commonly due to the larval stage of ascaris.

Growth is retarded to such an extent that it is impossible to get the animals into a marketable condition sufficiently early to be profitable.

The wandering habit of ascarids may result in serious consequences, for although according to " Huytra and Marck " only exceptionally do roundworms get into the stomach, in the experience of the writer they are frequently found there. *Post-mortem* examinations made during the past few years have revealed in numerous cases invasion of the stomach, and recently several cases of invasion of the bile ducts have been noted.

When the small intestine is infested the writer commonly finds a yellowish brown slime with a peculiar odour. The mucous membrane may show inflammatory changes varying from a small hæmorrhagic area, to the whole extent of the bowel. This may allow organisms present in the bowel to become pathogenic, for example B. cholera suis.

There may be absorption of the toxic materials produced as a result of metabolism, putrefaction and disintegration of the parasites, with severe results to the host.

In infested animals the lungs invariably show on *post-mortem* some damage. This may consist of hæmorrhages, secondary pneumonic areas, or the whole lobes of the lungs may be affected.

It is interesting to note that *post-mortem* examinations made on some hundreds of pigs show that the lungs in 70% of cases were affected.

Approximately in 60% of these it was found that the damage consisted of hæmorrhages, small collapsed areas, and areas of pneumonia. The remaining number were severe pneumonia or pleura-pneumonia.

The writer finds the most effective and economic treatment is the administration of oil of chenopodium. During the past two years several methods have been tried. It was first administered in the form of a capsule, but as vomition occurred in 30% of cases this method was discarded. It was next tried by being fed in the food—the pigs being fed individually—again vomition was the trouble, coupled with the fact that a number of animals refused to finish the food even after being fasted.

The method now in use is to drench the animals, and is carried out as follows :—

The animals are fasted for 24 hours. The dose being 15 minims for every 25 lbs.

A table of doses for use in the field, which the writer continually uses, and finds safe and efficient, is as follows :—

Age.	*Dose.*
8 weeks	20 minims.
10 ,, ...	25 ,,
12 ,, ...	30 ,,
14 ,, ...	35 ,,
16 ,, ...	40 ,,
6 months	1 ℥.
9 ,, ...	1½ ℥.
12 ,, ...	ii ℥.

For even very large pigs it is suggested that whatever the weight the dose should not exceed 2 fluid drams, although the writer uses 2½ fluid drams for large sows and 3 drams for large boars.

The drug is added to a full dose of either castor oil or liquid paraffin. The dose is then well shaken up in 4 ozs. of milk or whey and the animal drenched.

In the case of small pigs, the animal is held between the legs of an attendant, the head is pulled up by gripping both ears, a stick or stout rubber tube is placed in the mouth, and then administered with little trouble.

XUM

Large animals are roped and pulled up to a beam with the forelegs just touching the ground.

The writer now uses linseed oil instead of castor oil or liquid paraffin, this lowers the expense considerably, and seems to be quite as efficient. The pigs are usually dosed in the morning following the 24 hours' fast, all food and water being withheld until the afternoon, when a small sloppy meal is given.

Only one death has occurred among 600 pigs treated, and this four days after administration of the drug. This animal was one removed from a hospital pen, and in very poor condition when treated. A *post-mortem* examination revealed pneumonic areas in both lungs, gastro-enteritis and cirrhosis of the liver. The glands showed little or no changes.

This method has been very successful as in only a small number has vomition occurred. This of course being due to the irritant action of the drug. In some cases where it is considered necessary to repeat the dose owing to vomition, a little milk given before the drug will prevent a sensitive stomach reaching, and in others chlorotone gr. v may be useful. Large numbers of parasites are passed and in a fortnight the animals begin to make flesh rapidly, the skin is cleaner, and the general condition much improved.

What is most important is that the pig feeder is invariably satisfied with the result.

In a pen of eight pigs whose age was five months, to which a dose of one dram each was given, the animals lay about for 24 hours without feeding, and appeared very sick. This was somewhat alarming but in 48 hours the animals were again normal.

The following preventive measures are suggested. Keep the herd in small lots, not more than 10-12 in a pen.

Treat the sow for worms when she is not in farrow. Where permanent farrowing houses are used these should be thoroughly cleansed and disinfected before use. It is difficult to know what disinfectant to suggest, because it is believed that none of the coal tar products or other disinfectants, kill the eggs. Water at 80° C. will. The Americans use lye (potash refuse).

All manure and voided worms should be removed to a place where pigs are unlikely to come into contact with it, and so become reinfested.

The sow should be washed before farrowing, particularly the udders. If possible, she and her offspring should be removed within a fortnight to a clean pasture and the litter maintained as a separate unit until four months old. It is during the first four months that the risk of loss is greatest, not only from parasitic infestation, but also from other diseases common to swine.

XUM

Abstracts

Fourth World Poultry Congress, Crystal Palace, London, July 22nd—30th.

Our Egg Imports.—As inquiries in connection with exhibits at the World's Poultry Congress extend, more and more information of general interest comes to light; in the matter of the import of eggs some very significant facts seem worth quoting. For example, in sixty years our import of eggs has risen in millions from four hundred and thirty-one to just under three thousand, but the sources of supply have not remained constant, the most striking changes having come about as a result of the War. To give one notable instance, in 1913 Russia was responsible for more than half our imports, in 1929 the fifty-three per cent. had fallen to three. In 1913 Poland was not sending us sufficient eggs to justify the keeping of an accurate record; last year the import must have been in the neighbourhood of five hundred millions. Holland has quadrupled her import since the War and Belgian returns have risen from something quite insignificant to within a very little of the total Dutch contribution. China is going up and Canada going down, while Australia and New Zealand are increasing their import; Australia having sent forty-five millions last year; five years earlier her import was only nine millions. South Africa and China show an increase; Italy shows a decline and so does Egypt, but the country that sends most of our eggs is Denmark. The twenty per cent. in the year before the War was nearly doubled in 1924, then came a decline. But Denmark supplied twenty-eight per cent. of our imports last year.

Egg Imports: Seasonal Varieties.—Imports vary according to the seasons. The months in which this country receives most eggs were for a long time October and November, but nowadays, owing to storing and pickling, chilling and freezing it is possible to maintain a steady flow throughout the year. London is the chief distributive centre of the Empire. Eggs reach the capital from every country of the world and about forty per cent. of the total supplies come by way of the Thames. The western ports take about half as many and the east coast ports with Harwich are about equal to those on the west side (Liverpool, Holyhead, Fishguard and Manchester).

In Scotland, Glasgow and Leith are the great centres of arrival. Irish supplies, and at times a part of the Canadian, come to the west coast ports, while the east coast takes eggs from Denmark, Belgium, Holland, Russia and Poland. The consignments received at Harwich

XUM

are sent on by rail to the capital, and if we regard that as their destination, London takes fifty per cent. of the country's imports.

Eggs come in about seven different kinds of packings, varying from cases of twelve long hundreds (a long hundred is one hundred and twenty) down to boxes with three long hundreds, which are perhaps, more popular than any others. It is an interesting fact to note that, doubtless as a result of the development of the trade in this country, the average consumption of eggs per head of the population has risen to about a hundred and thirty-five. This figure is higher to-day than it has ever been. While our national consumption per head does not equal that of the United States and Canada in the last five years it has gone up twenty-five per head per annum, so that the day may yet come when, by the aid of constant propaganda and the stimulus of the World Poultry Congress every citizen will regard it as part of his duty to eat at least one egg a day, and will see that it is home grown.

THE BRITISH POULTRY FILM.—Although films are coming from all parts of the world for exhibition in the cinema theatre at the Crystal Palace, when the World's Poultry Congress assembles in July next, the Ministry of Agriculture is confident that the British film will not be found in any way inferior to its competitors. The British Instructional Film Company, responsible for it, has spared no pains and when the picture is complete the length will be round about three thousand five hundred feet. Captain John Orton, who produced " The Celestial City " and has been concerned with other successful pictures, assisted by the Ministry's Inspectorate, is responsible for the technical side of the arrangement, and the scenario is undoubtedly attractive. After the training, duties and selection of a county poultry instructor have been set out pictorially, we shall see the system under which education is administered, and then a number of farmers will ask the instructor for a comprehensive lecture on poultry keeping. His address will be given in pictures and will set out the whole story of British poultry production, not only in all its many branches but in many parts of the country, because the British Instructional Film Company has spared no pains to secure the most striking pictures without regard to intervening distances. The British film will be shown with others from the United States of America, Canada, India, Hungary, Spain, Bulgaria and probably Austria and Czechoslovakia. It is noteworthy that none of the films will be disfigured by advertisements ; they will just be pictorial lectures on the principles and practice of poultry-keeping.

CHAIRMEN OF CONGRESS SESSIONS.—There will be six sessions at the Fourth World's Poultry Congress and the Chairmen have now been appointed. For the first (Breeding and Incubation), the Honorary Chairman is Professor A. Ghigi, of Italy, and the Acting Chairmen will

be Professor R. C. Punnett, F.R.S., and Mr. R. R. Robbins, of the National Farmers' Union. For the Nutrition and Rearing papers Professor Salvador Castello, of Spain, will be the Honorary Chairman, and Mr. C. Bryner-Jones, Head of the Welsh Department of the Ministry of Agriculture, and Dr. Charles Crowther, Principal of the Harper Adams College will be the Acting Chairmen. For Diseases and their Control, the Honorary Chairman is Dr. le Hennepe, European Secretary of the World's Poultry Science Association, the Acting Chairmen being Dr. Andrew, Principal of the Ministry's Veterinary Laboratory and Professor O. C. Bradley. In the session devoted to Economics (including marketing) the Honorary Chairman will be Dr. Morley Jull, of the United States, and the Acting Chairmen, Dr. J. S. Gordon and Dr. R. Scott Robertson, of the Ministry of Agriculture for Northern Ireland. " Education and General " will have for Honorary Chairman Mr. F. C. Elford, of Canada, and for Acting Chairmen, Sir Robert Greig, Secretary of the Board of Agriculture for Scotland, and Mr. H. E. Dale, C.B., of the Ministry of Agriculture. For the Rabbit Session Mr. E. C. Richardson is Honorary and Dr. J. B. McDougall is Acting Chairman. It will be remembered that these sessions will be held every morning at the Crystal Palace between 10 a.m. and 1 p.m. and that all the papers will be printed at length with précis in French, German, Spanish and Italian for the benefit of Delegates and Members of Congress.

Hydatid Cyst of the Liver.*

By JULIAN TAYLOR, M.S.

PATIENT, male, aged 22, admitted to University College Hospital on March 13th, 1930, complaining that he had observed a swelling of the upper abdomen for the past three months. He has lived in London all his life, and never been abroad, but has always kept a dog that lives in his house during the day and sleeps in his kitchen at night. The swelling, when first noticed, was smaller than it is now, but he thinks it has been larger, and has lately diminished. He has no pain and no symptoms other than the presence of the swelling.

He is a well-nourished muscular young man. There is in his epigastrium a rounded swelling about the size of a coconut. It moves freely with respiration and can be moved from side to side and up and down. It is tense and fluctuant but not pulsatile. The lower margin of the liver can be felt under the right costal margin and can be followed indefinitely to the swelling, which is, I think, in the left lobe of the liver.

* From the Proceedings of the Royal Society of Medicine.

A skiagram of a barium meal shows that the stomach is pushed to the left and downwards, its shadow partially encircling the swelling. To the right is a faint shadow suggesting the presence of calcification.

Two blood-counts were made at different times; the first showed an eosinophilia of 4.5%, the second showed no eosinophil cells.

I think the tumour is a hydatid cyst of the left lobe of the liver. Other possible diagnoses are malignant tumour and angioma, but the absence of pulsation is against both these suggestions.

Discussion.—Dr. H. S. Stannus said it would be wise to have a serum test made, using a hydatid antigen.

Mr. C. P. G. Wakeley said that he had seen a similar case, in which, at operation, a large cavernous angioma of the liver had been found. Large cavernous angiomata of the liver were cystic, but the smaller ones did not fluctuate. Such a diagnosis was a possibility in this case. Certainly there should be an exploration.

Mr. Taylor (in reply to a question) said he refused to entertain the suggestion of diagnostic exploration of the swelling with a needle. Such a procedure might result in escape of the hydatid contents into the peritoneal cavity, an operable condition being thus converted into a hopelessly inoperable one. Again, serious symptoms might follow from the escape of fluid into the peritoneal cavity as the result of so-called protein shock. Many years previously he had seen a patient die as the result of intraperitoneal hæmorrhage, verified *post-mortem*, consequent upon diagnostic puncture of the liver.

Postscript.—Dr. Hamilton Fairley injected under the skin an extract of *Tænia saginata*. A wheal 1½ in. across appeared in a few minutes, whereas an injection of saline produced no such effect. A complement-fixation test for echinococcus was negative.

Dr. Fairley's deduction from these tests was that the swelling was a unilocular hydatid cyst with no complication such as suppuration.

Operation, March 22nd, 1930.—The abdomen was opened under ether with 2% novocain injected into the parietal peritoneum around the incision and into the semilunar ganglia. This latter injection was not easy, on account of the large size of the tumour, which filled the left subphrenic space and proved to be a cyst in the left lobe of the liver, tense, and as large as two coconuts. The swelling was explored with a syringe, clear fluid being found, and formalin (10% in normal saline) was then injected into the cyst. After this had been left to diffuse for several minutes, the cyst was opened and the fluid contents aspirated with the suction apparatus. The endocyst was then easily removed, being seen as an opaque white membrane easily separable from the outer cyst wall. After the cyst had collapsed, the ectocyst and adventitious layer were easily dissected from the liver, hæmorrhage

XUM

being arrested by ligatures and by pressure of warm saline packs. The cavity in the liver was partially closed with catgut stitches and a drainage tube inserted.

There was a little blood-stained discharge from the liver for two days, at the end of which time the tube was removed. Five days later the patient was doing well.

Microscopic examination of the endocyst showed numerous scolices.

Translations

Concerning Vivisection.*

By PROFESSOR G. BARRIER,
The Alfort Veterinary School, Paris.

A WAVE of sentimentality is passing over France and Belgium. It proceeds from a worthy sentiment of compassion towards human suffering and by extension towards that of the lower animals. But it goes beyond the aim of those who have raised it, whose intention is not, so they say, to hinder or fetter free scientific research. In fact, however, it denounces to public authorities " atrocities " which " sadic scientists " inflict on the subjects of their operations.

In France the actual campaign has been brought petitioning the Minister of Hygiene and Social Oversight to take measures of supervision and repression at the instigation of " the International Union against Vivisection " and its allied popular societies and it has employed lawyers of the Municipal Council of Paris and the district of Bordeaux as well as an evening paper which has opened its columns to the protestations and originated a vast petitioning movement—in Belgium by influences of the same kind it has succeeded in obtaining deposition before the Senate of suggested law relative to the protection of animals and the regulation of vivisection.

How fortunate it is that the Academy of Medicine of Paris, consulted by the Minister of Hygiene and the Academy of Medicine of Belgium, have immediately addressed themselves to consider the points raised.

Nobody can reproach them for being unanimous in protesting against the opprobrium thrown so lightly on scientific investigations, against vexatious measures proposed which tend to render vivisection impracticable or sterile and from showing to the governments the peril to which they expose themselves if they yield to the blindness and

* *Recueil de Med. Vet.*

sectarianism of the antivivisectors. It appears to me that the Central Society of Veterinary Medicine should join its voice to those of these eminent bodies.

Let us proclaim above all that men of science, of refined culture, and high morality are unanimous in reproving not only the slightest cruelty but any forgetfulness of the rules which it is customary to observe each time that any intervention threatens to be painful; let us tell them that the regulation based on the law Grammont repressing bad treatment of animals has been reinforced to hinder barbarous spectacles such as bull fighting, dog fights, cock fighting, or certain cruel practices inflicted on singing birds or in the abattoirs.

Do they at any time in their laboratories—notably in those of the veterinary schools, quite specially denounced—delight in the horrors of which they are accused? It is to their honour that they have never pursued any other aim than to undertake researches useful to the progress of science for the benefit of humanity and of the animals themselves. Then why are they periodically obliged to defend themselves?

Because they allow their activities to be seen by outsiders or professional people of whom the least one can say is that they are not sufficiently informed of the progress they are permitted to realise.

A vivisection, such as concerns men of science is an operation practised on the living subject, under fixed conditions and under the control of laboratory chiefs with the object of throwing light on a new or controversial question of physiology, medicine, surgery, therapeutics, toxicology or prophylaxis. In veterinary schools it can assume the character of an exercise of operative medicine to teach the students to practise non-painful operations concerning which anæsthesia is not necessary or is contra-indicated. It differs from surgical intervention properly so-called in that the latter seeking to remedy a morbid state or simply to satisfy æsthetic convenience is demanded from the practitioner by his client or by his attendants.

Thus vivisection is perhaps painless or painful, of very short or prolonged duration, without harmful consequences to the health of the patient, may be followed by death in a short time. All depends on its nature and the conditions of the experience which justify it. If it be harmful and prolonged humanity demands that it be made bearable. The experimenter, the doctor, the veterinary surgeon, have to-day in general, regional, or local anæsthesia the means of obtaining this humane result without risks and have practised it now for 55 years.

On the other hand the cinematograph allows the teachers to reduce to a minimum experiments on animals absolutely indispensable for the proper instruction of physiology and therapeutics.

XUM

To-day all biological and bacteriological laboratories are perfectly equipped to carry out all their requirements quickly and well; they have at command all the technique and all the detail for proper restraint and anæsthesia of animals; in short these are such that all suffering, against which one was much less provided formerly, is now done away with.

After the petitioning to the Minister of Hygiene, who referred the matter to the Academy of Medicine, a Commission appointed decided that the control of vivisection is already effected by qualified and conscientious scientists placed by the Government at the head of laboratories, or to whom has been entrusted the direction of scientific establishments on which they depend. As regards private laboratories it thinks that they should be submitted, *but in this respect only*, to constant supervision from one of the neighbouring official establishments. But it considers that it would be absolutely intolerable that strangers to the needs of science should have the right to interfere in the work of the laboratories and to criticise the operations.

The Society* also expresses the View

1.—That vivisections should only be tolerated in official or duly authorised private laboratories, for general ends determined, under the control and responsibility of the directors of establishments concerned.

2.—That for demonstrations of instruction they should, as far as possible, be replaced by cinematographic projections.

3.—That it should be forbidden to produce these in any form before the public.

4.—That all effective precautions should be taken to anæsthetise the animals which are subjected to them.

Chronic Ostitis of the Metacarpus—its Treatment with Subcutaneous Injections of Iodine Solution.†

By DR. LAGAILLARDE,

Veterinary Surgeon, France.

RIDING horses of all ages supply a large number of cases of ostitis of the metacarpal bones. From the therapeutic point of view the means mostly resorted to are: Blisters, which frequently do not assure

* *Societe Centrale Vet. Med., Paris.*

† Translated from the *Revue Vétérinaire*, by Dr. E. A. Caglini.

recovery because of the shortness and mildness of the inflammation that they produce, and firing which is very efficacious but objectionable on account of the indelible marks which it leaves.

One can obtain a curative inflammation by means of subcutaneous injections, at the level of the lesion, of the following iodine solution :—

Tincture of iodine 1, 60% alcohol 1.5, water 1.5.

It is not necessary to sterilise the syringe. The amount of solution to inject, and the number of injections depend on the characteristics of the lesion.

In the case of a small periostitis, definitely localised, one injection of 1 c.c., at the level of the lesion.

If the two rudimentary metacarpal bones are diseased on the upper half or the upper two-thirds, two injections of 1 c.c., on each side along the inter-metacarpal groove, and two or three inches away from each other.

The two upper injections are made about 1½ inches below the base of the knee.

When the periostitis is on either the internal or the external side, we have to make two injections on that side only.

Exostosis.—In the case of two or three exostoses well separated, make one injection of 1 c.c., on top of each. If there is only one, make one injection of 2 c.c.

Periostitis of the Principal Metacarpal Bone.—Make four injections identical to those described.

Symptoms following the Injections.

The injections of iodine give rise very rapidly to an intense congestion of the tissues. Later this becomes a more or less bulky and diffuse œdema, according to the number of injections.

The œdema starts to decrease from the tenth to the fifteenth day, and disappears about the thirtieth day after injection.

The periosteum, under the influence of the hyperæmia, gives rise, especially on the level of the sites of injections, to some new formations, which are appreciable after the disappearance of the œdema.

These are especially appreciable in the cases of small periostitis. On the other hand their development is very little pronounced when the pre-existing exostosis or periostitis is very large.

A scarcely appreciable periostitis becomes as thick as a pencil ; an exostosis becomes markedly hypertrophied when its dimensions are small, but very little when its volume is notable.

In some very rare cases, when four injections have been made, one observes a slight degree of hyperostosis of the principal metacarpal bone.

XUM

On the healthy bone tissue the injections give rise to unappreciable new formations.

The bony new formation due to the injections progressively decrease and in the majority of cases their disappearance is very rapid.

Usually the lameness has disappeared about the thirtieth day. The period of rest is from 35 to 45 days.

From the curative point of view the injections of iodine have some effects analogous, and sometimes superior, to those obtained by cauterisation. A horse affected with ostitis of the metacarpal bones, which has resisted blisters and pin firing has been definitely cured by their use.

CONTRA-INDICATIONS.—The injections of iodine must not be used in young horses of five years of age or under. Their bony tissue, in full growth, might be the seat of exuberant new formations which could persist for some time. On these horses one can resort to the use injections when blistering has been inefficient.

Abstracts of Current Literature

Varenika, N., Dr.—Epidural Anæsthesia.—*Therapeutische Monatshefte.—Aug.-Sept.*, 1929.

As regards this method Dr. V. comments on the local anæsthetic to be used, the concentration, and in what operations epidural anæsthesia is indicated. Benesch used only Bayers' "Tutocain" in solutions of 0.5, 0.75 and 1 per cent. He remarks, "In whatever concentration one uses tutocain a quantity of 25 to 30 c.m. is sufficient to anæsthetise the genital apparatus of a cow 7 to 9 cwts. in weight, in order to carry out Albrechtseu's operation without pain. Complete lack of sensation occurs in 10 to 12 minutes and is shown first around the region of the anus and tail and after 10 to 15 minutes in the skin of the loins.

"About 1 hour to 75 minutes after the injection anæsthesia disappears and the cow shows normal susceptibility without any disturbance. No abnormal sequelæ occur even if the method is employed several times." The solution must be warmed to body temperature.

From these trials Benesch expressed the hope that epidural anæsthesia could be used in many gynæcological cases, such as excessive straining, embryotomy, reposition of the uterus, ovariotomy of cows, etc.

Some American veterinarians, e.g. Frank Fitzgerald, made some tests after Benesch. In order to ascertain how far the solution of the local anæsthetic spread in the vertebral canal, they used coloured agar solution on the test animals. They came to the conclusion that 10 c.c. of the solution sufficed to anæsthetise the nerves of the tail, but to anæsthetise the nerves of the hind extremities an amount of 30 to 40 c.c. of the solution is necessary.

As a narcotic they used 1 to 2 per cent. procain and stated that 5 minutes after an injection of 40 c.c. the tail was insensitive, after 10 to 15 minutes the gait was uncertain, and after 20 minutes hind extremities and genital organs anæsthetised. From these results they recommend this method to the practitioner who operates without assistance.

The best use is in individual animals which are bad subjects for general narcosis or difficult to narcotise. Results were equally good in the case of horses.

Zemaitis in his dissertation on epidural anæsthesia in dogs reports good results in ulcers, necrosis, fractures and amputation of the tail. As a local anæsthetic he uses 2 per cent. novocain-suprareiun solution. In our practice we have not much to do with sterility and not sufficient experience in that line.

A few cases of embryotomy, prolapse of the uterus and vagina, the diagnosis of sterility in the cow gave me an opportunity of testing Benesch's method and carrying out the technic. I had two cases of embryotomy, five cases of prolapsus uteri, and twenty cases of diagnosis of sterility in the cow. In the first application of this method I used only novocain-adrenalin solution from ampullæ of 10 c.c. The patients stood the application in this concentration well, only the amount varies according to what object is desired. It is not necessary to warm the solution. It can be injected cold.

In sterility of cows I used 20 c.c. novocain-adrenalin which amount sufficed for rectal and vaginal examination, for vaginotomy I used 30 to 40 c.c. ; this suffices for cows of 4 to 7 cwts. In such cases I found lack of sensibility lasted for 50 minutes.

This method of local anæsthesia should be useful in the castration of swine and it ought to be tried out. G.M

Van Der Kamp.—Tijdschrift Voor Diergen.—*February 15th*, 1930.

The author has made inquiries into the presence of tubercle bacilli on meat from carcases of cattle by means of the guinea-pig test. He also experimented how to disinfect knives contaminated with tuberculous material.

XUM

He came to the following conclusions :

1. When the tuberculous peritoneum is removed, contamination of the meat with tubercle bacilli can hardly be avoided.

2. Singeing each part of the meat during one second will destroy all tubercle bacilli adhering to the surface.

3. It is desirable to supervise the slaughter of all animals suffering from tuberculosis of the peritoneum or the pleura and to make disinfection of the slaughtering appliances and butchering utensils compulsory.

4. Knives and butchering utensils contaminated with tuberculous material are disinfected by moving them during ten seconds in water from 100° C. to 75° C. at the least.

Kübacher, Dr. Hans.—Non-Specific Protein Therapy in Gastro-Enteritis of the Dog.—*Wiener Tierarzt Monats. February 15th*, 1930.

In this malady the author has used bismuth preparations combined with alum silicate, pulbit, calomel in union with sac. lact, silver nitrate combined with alum silicate in pill form, adrenalin 1 in 1,000, and adsorgan. The last named—a chloride of silver and silica preparation—in teaspoonful doses has been very serviceable in young dogs. In all acute cases it was important to first empty the stomach and intestinal canal and this was done thoroughly by apomorph. hydrochlor subcutaneously and clysters and laxatives. Recently casein under the name of *actoprotein* in a 6 per cent. sterile, chemically pure solution (from the Sanabo Chinoin Works) has given me the very best results in gastro-enteritis. The doses can be carefully graduated and it is well taken by dogs of all ages without bad effect on the heart, nervous system or general condition. Anaphylaxia was not noticed after an injection pause of 2 months. Actoprotein is injected into the gluteals in commencing doses of 0.5 c.c. in small dogs and 1 c.c. in large dogs. These injections were repeated every second day in 0.5 c.c. ascending doses. Too big doses have no advantage and are dangerous. In some cases over-dosing has caused death within 24 hours.

It appears almost impossible to produce a dose table for protein therapy in gastro-enteritis of the dog. It is due to variations in the system, the malady and the breed of dog—Poms, terriers and mongrels are more resistant than other breeds and need rather larger doses than pugs and pekes and griffons. The veterinary surgeon must dose these individually.

I have treated 21 cases and have noticed a noteworthy difference as to symptomatic therapy. Two dogs died. The first had been ill

XUM

for five days and were in a moribund state when brought for treatment (they had been given copious draughts of cold water) (see Elam's note VETERINARY JOURNAL, 1927, pp. 316-317). The second was a five year old sheep dog with hæmorrhagic gastro-enteritis and severe general disturbance at the end of 8 days.

In the remaining 19 the condition improved more or less quickly, especially if seen in the early stage. Animals severely ill (bad general symptoms, temperature 104.9) became brisk and lively. In such cases I did not press further injections of actoprotein, but depended more on careful diet for a shorter convalescent stage. More than 6 injections were never given to any animal. Dogs with subnormal temperatures took longer to recover than those with high temperatures.

With protein therapy and symptomatic treatment or even with protein therapy alone, many dogs recover but cases do arise which, in spite of every therapy, end fatally within a longer or shorter time.

K. stresses the importance of milk diet, avoidance of water (Elam), rest and warmth.

Apostoleano and Vladutiu.—The Action of Different Therapeutic Factors in the Bio-Pathology and Cicatrisation of Wounds.—Research from the Surgical Clinic of the Faculty of Medicine, Bucarest, 1929.—*Recueil. de Med. Vet.* —Feb., 1930.

On account of the differences among surgeons as to the best therapeutic methods the authors declare that the essential in the treatment of wounds is to choose according to circumstances the easiest, most rapid and least costly.

A. and V. carried out a series of researches on the horse in order to establish the most practical, rational and economic method of dealing with wounds.

The skin on each side of the thoracic walls was shaved for a space of 10 square centimetres. Twenty fours hours after cutaneous strips 5 centimetres square were dissected from the sides. The wounds thus produced were infected with soil gathered around the hospital and mixed with septic secretions provided from different wounds in course of treatment : the animals received afterwards an injection of anti-tetanic serum.

The wounds were examined, palpated and measured each day and observations taken on the nature and frequence of microbes as well as on phagocytosis.

XUM

Every day or every other day certain wounds were treated with antiseptic solutions—Dakin-Carrel, permanganate of potash 1 in 2,000, hydrogen peroxide 1 in 4—other wounds received on their circumference an application of 1 in 5 cantharides ointment ; the control wounds were left alone without any washing or open to the air.

All wounds were measured with the aid of bands of transparent paper on which the length and width of the lost substance was traced in crayon.

In their general conclusions the authors confirm the truth enunciated by Hippocrates, " dryness in wounds is nearest the healthy state, and humidity nearest the morbid state."

The antitoxic and immunising role of the skin is best realised in a dry medium. From the experiences of A. and V. tumefaction is the greatest and most persistent in wounds submitted to *damp* antiseptic treatment whatever be the microbicide substance used. On the other hand *dry* treatment (warm air and air currents) diminish post-traumatic swelling, favour the multiple functions of the skin and accelerate retraction of the lips of the wound.

Wounds left in repose as well as those submitted to warm air have shown more rapid and more uniform granulation, then this granulation has been retarded at the site of wounds treated by antiseptic solutions followed by the application of bandages. Hot air, sunlight, dry medium favour the production of a regular uniform granulation which is arrested when the wound arrives at the level of the epidermis ; these granulations are covered with a thin adherent crust which takes the place of the epidermis until centripetal epidermisation is complete. According to the activity of granulation wounds are classed in the following order :—

1. Wounds treated by vesication and left in repose.
2. Wounds left in repose without washing.
3. Wounds treated by Dakin-Carrel solution.
4. Wounds treated by oxygenated water.
5. Wounds treated by pot. permanganate solution.
6. Wounds treated by Dakin-Carrel solution with bandaging.
7. Wounds treated with oxygenated water and bandaging.

Treatment by repose and maintenance of a dry medium (sun rays, hot air) is the most scientific and economic.

The cost of dry treatment compared to that of damp treatment is as 1.02 to 5.6, an important consideration in favour of dry treatment.

XUM

Coley's Mixed Toxins in Hodgkin's Disease.

REPORTS of 58 cases of lymphosarcoma and 38 cases of Hodgkin's disease treated with the mixed toxins of erysipelas and *Bacillus prodigiosus* were published by Coley in *Annals of Surgery*, October, 1928. Of this group, 18 remained well for five to twenty-two years after treatment. Of these, 15 had been treated with the toxins alone and three with the toxins and X-rays. He believes these diseases should no longer be regarded as absolutely hopeless, for they are extremely radio-sensitive and respond readily to treatment with the mixed toxins.

In the discussion, Lilienthal remarked that he had found Coley's fluid to be of especial value in lymphosarcoma, in the treatment of which he had obtained excellent results.

Coley concluded the discussion by stressing the importance of commencing treatment early, and of giving a prophylactic course of toxin treatment after surgical intervention.

[Coley's Mixed Toxins (Erysipelas and Prodigiosus Toxins), P., D. & Co., consists of unfiltered toxins of *Streptococcus erysipelatis* and *Bacillus prodigiosus*, prepared according to the formula of Dr. Coley. It is supplied in 1-c.c. bulbs. In previous communications Coley has indicated the value of this preparation in cases of inoperable malignant growths.—ED.]—*Therapeutic Notes*, March, 1930.

Ruegg, J.—Complement to the Remedying of Torsio Uteri According to Bach.—*Schwerzer Archiv für Tierheilkunde.*—May, 1930.

Where Bach's method does not effect the object of remedying the twist of the uterus or places too great a strain on the operator, the following procedure may be adopted with advantage. It lightens the work considerably and occasionally prevents failure. Under the place where Bach gets the assistant to place his hand on the abdominal wall of the cow a baulk of wood 6 to 8 inches thick is placed on the ground transverse to the long axis of the cow and at such a distance that its end in the turning of the cow arrives at the point of contact with the fœtus where in Bach's method the assistant has to withdraw his hand. In this way in the further turning of the cow the baulk takes over the thrusting force of the drawer away hand. The cow is pushed with advantage over the belly position on to the side in order to use out to the full the effect of the underlying baulk. The hind feet are loose and only the fore feet tied up to avoid injury.

Zimmermann, Karl.—A Disease of the Cow Simulating Addison's Disease.—*Wiener Tierarzt Monatsscrift.* Aug. 1st, 1929.

In the middle of last century Dr. Addison, an Englishman, described a fatally progressive disease of man characterised by advancing anæmia, heart weakness, metabolic assimilation, disturbances, emaciation and great bodily fatigue, and in which the skin and mucous membranes of the patients show a striking bronze coloured pigmentation. On *post-mortem* Addison regularly found morbid changes in the suprarenal bodies (caseation of the medulla).

Any destruction of the function of an endocrin gland in animals does not as yet appear to have been recorded in literature.

Recently I was called to a 4 year old cow which milked well after calving, but the milk supply gradually declined so that after 30 weeks pregnancy she was dry. For a few days a weakness of the extremities was noticed so that the cow was mostly recumbent, could only rise with difficulty, staggered when standing, and knuckled over at the joints. Appetite and rumination were always present. For half a day she lay quite listlessly.

On examination the cow, moderately well nourished, was down with legs stretched sideways. The head was turned to the side and on moving fell back powerless. The skin felt cool, the mucous membranes and muzzle were markedly anæmic, plainly visible in the yellowish grey part of this breed of cow. The temperature was 100, the pulse small, unequal and irregular, 7 to 9 pulse beats, 1—3 pulse intervals, 97 beats a minute; breathing superficial, quickened. Heart beats, plainly discernible, analogous to pulse. Rumination suspended; living fœtus established rectally. Uterus, in proportion to duration of pregnancy, was large. Nothing abnormal found per rectum.

Diagnosis. Heart weakness and moderate dropsy of the envelopes.

Therapy. Five grammes of caffeine sod. salicyl. The cow got up in 30 minutes with slight help and a drench of black coffee and alcohol was given.

Ten days later I was called to the cow again. There was severe dyspnœa and mouth breathing. Later straining like labour pains but no opening of the os. After three hours as there was no hope the cow was slaughtered.

Post-mortem. The heart was flabby. No pathological changes in valves or muscle. The suprarenal bodies were plainly enlarged. The left two-pointed. It weighed 13.2 grammes, consistency soft and doughy like a flabby cyst. On the surface some small knobby pro-

XUM

tuberances, of a yellowish colour, distinct from the reddish hue of the neighbouring tissue. On section a 6 m.m. thick yellowish cortical layer with a cavity enclosing a greyish red grumous lining. The right suprarenal body weighed 15.5 grammes, was hard and of a bluish red colour and on section a plainly defined yellowish red cortical layer and a greyish red medullary zone and in which one long and two pea sized, yellowish rounded grumous masses were situated. Kidneys, spleen and lungs showed no pathological changes. The fœtus found was hairy in parts about 70 c.m. long, dropsical, envelopes sodden and jelly like, ovaries small, scarcely bowed corpora luteum on the surface. This fatal case with heart collapse as a result of dropsy of the envelopes and fœtus has all the symptoms of Addison's disease in more or less plain form (pigmentation, anæmia, heart weakness, emaciation, debility, pathological changes in the suprarenal bodies). It appears that a disturbance in the metabolism of the suprarenal, ovareal and corpus luteum hormones is a causative factor in the production of Addison's disease.

Reviews

Tierheilkunde und Tierzucht—Eine Enzyklopädie Der Praktischen Nutztierkunde. Edited by DR. V. STANG and DR. D. WIRTH. Vol. IV. *Futterberechungen—Granatrinde.* Pp. 780 with 237 figs. in the text, 1 coloured and 15 black plates. Urban & Schwarzenberg. Berlin N24 and Vienna 1. 33 marks, bound 40.

This, the fourth volume of this classic work, is as valuable and interesting as its predecessors. The estimation of food values and the compiling of food tables, from the time of O. Kellner onwards, has always been well done and amply discussed by German scientists, and in this volume 138 pages have been devoted to the subject and following them are useful pages on food exanthemata, law relating to feeding stuffs, food poisonings, and preparation of feeds. At the end of each suitable subject in the encyclopædia, whether relating to disease or feeding, there is a short instruction as to the meat inspectors' point of view in valuing the flesh for human consumption. The short biographies of noted veterinarians and medical men are continued, and the former include the names of our countrymen, William Gibson and Joseph Goodwin.

The physiology and pathology of the uterus is discussed in 33 pages. There is an interesting and very well illustrated section on harness and saddlery and even goats and dogs are dealt with in this connection. Brood mares and their management in European countries and a mine of information in connection with them are strong points in the book, and occupy a space of 80 pages.

Many fowl diseases are described and illustrated, and our old friends, the pasture grasses, good and bad, are discussed and illustrated. Here also

we find information on the gaits of the horse, brain diseases, and the surgery of parturition. The wide view that the editors of his encyclopædia have taken must necessarily mean immense labour and research, and there is ample evidence in this volume that having once put their hand to the plough there is no looking back. The publishers may also be congratulated on producing a well finished and attractive series of volumes.

Training and Horse Management in India (with Hindustanee Vocabulary). By M. HORACE HAYES, F.R.C.V.S. 7th Edition, pp. 256. Hurst & Blackett.

The fact that the book was the first of the valuable works of this sporting author, as well as the last (for he was correcting the final proofs of the Sixth Edition when he was stricken down with his last illness) and that a Seventh Edition has been called for, is sufficient proof of its value and popularity amongst sporting men in India. Written in popular language and dealing with all phases of horse management as applying to India, the book is one which should be on the bookshelf of every owner of valuable horses in that country, and especially will it be found of use to the young Army officer on his first tour in the East.

It deals not only with the feeding, shoeing and general management of the animals themselves, but also the stables, and is full of useful hints in regard to the management of men and things.

Coming, as it does, from the pen of a Veterinarian, it appeals especially to members of our profession, and a perusal of the chapters on foods and feeding, in particular, are of especial value to every sporting man.

Diet and the Teeth: An Experimental Study. Part 1. Dental Structure in Dogs. By MAY MELLANBY. Published by the Medical Research Council, H.M. Stationery Office. Price 17/6.

THE report represents the studies of Mrs. Mellanby of the relation of diet to the structure of the teeth and jaws in dogs. The object of the work is to bring into a new light altogether the problems of dental deformity and dental decay in human beings. The work, however, is not only of great interest, but is of great instructive value to us as Veterinarians as all her research work was carried out on dogs.

Discussing her reasons for the choice of dogs for this work the author mentions, amongst other things, the omnivorous nature of this animal and the fact that although they are not readily susceptible to caries, they are capable of showing wide variations in structure and the defects found in them under experimental conditions are similar to those found in man.

The whole of Chapter II deals with the normal structure and development of dogs' teeth. It is stated that the literature upon this subject is somewhat scanty and the matter was therefore thoroughly investigated. As the result of this work we have a very able treatise on the dentition of the dog. It deals with the naked eye and histological characters of the teeth of the dog from weaning to adult life. These are illustrated by an excellent series of radiographs and photographs of the jaws during successive periods in life.

From this point a comparison is made between normal and defective teeth and jaws. By dietetic experiments numerous variations in dental

XUM

structure are produced and as a result the author shows that tooth development is dependent upon the presence in the diet of fat soluble vitamin D. It is of interest to find that this is present in abundance in cod liver oil, suet and milk but is absent from raw meat without fat, from skimmed milk and from many of the vegetable oils.

Dealing with cereals the work shows that some cereals and particularly oatmeal have very definitely anticalcifying properties.

Sunlight, in the absence of a sufficiency diet, will not provoke normal dental growth ; whereas a complete diet in animals deprived of sunlight gives rise to normal teeth.

The work is full of interest to us as Veterinarians and whilst congratulating the writer upon the thoroughness of her technique, would take this opportunity of recommending that all who work with dogs, make a point of studying it.

News

Spain's First Animal Dispensary.

SPAIN's first Animal Dispensary has just been inaugurated at Guadalajara, near Madrid.

The opening ceremony was presided over by the Mayor in the presence of a large gathering, including representatives from the Spanish Home Office and the Civil Governor. The Rev. Father Lopez blessed the Dispensary, making the Sign of the Cross three times, in memory of the episode when St. Francis of Assisi tamed the fierce wolf.

Senor Julia, the energetic Secretary of the Madrid S.P.C.A., and Dr. Millard, who gave a generous donation, are to be congratulated on the historic step they have taken in connection with animal protection in Spain.

The lace workers of Cyprus have recently offered to work over-time in order to raise funds for the Dispensary.

—(*The Animal World*, June, 1930.)

When Animals are ill.

ALL animal lovers will agree that when animals are ill they should be treated by qualified men. Unfortunately, as the law stands, anyone may

set up in business as an animal doctor and can trade on the knowledge that although most people will not trust themselves in the hands of anyone who is not a qualified medical man when they are ill, some animal owners are less particular when their animals are ill ; a quack may be considered to be " good enough " for the animals. But there is one thing an " animal doctor " or an " animal specialist," or whatever a quack chooses to call himself, may not do ; the law does not permit him to say that he is a veterinary surgeon—and, therefore, a qualified man. Inspector Reynolds, of South Shields, noticed a breach of this law the other day, and, as a result, a man was summoned for having used the description " veterinary," and thus stating that he was qualified to practise a branch of veterinary surgery, when he was not on the register of veterinary surgeons. The prosecution was undertaken by the Royal College of Veterinary Surgeons. It was stated that a woman saw the defendant's advertisement and took her ailing dog to him. The defendant said the dog was suffering from eye trouble, and in return for a fee of four shillings and sixpence, he gave her ointment, lotion and powder for the dog. Later the woman saw a qualified veterinary surgeon, who advised her to have the dog destroyed, as it was suffering from consumption. When Inspector Reynolds questioned the man he said he did everything a veterinary surgeon could do, including operations. The defendant was fined £3 and a guinea costs. Maybe the publicity given to this case will make some people a little more careful when their sick animals require treatment and will thus be the means of saving animals from much suffering.

—(*The Animal World*, June, 1930.)

" The Field " Distemper Fund—Meeting of the Council.

THE Duke of Portland, K.G., presided over a meeting of *The Field* Distemper Council summoned to consider a report of its Scientific Committee on the results obtained since the distemper preventives had been distributed on a commercial scale.

The report stated that 22,000 doses had been issued to Veterinary Surgeons. The percentage of successful immunisations had not been so high as during the first experimental issues from both the Mill Hill Laboratories and those of the firm concerned, and a number of dogs treated during last Summer and Autumn had not been rendered permanently resistant to the disease.

The Scientific Committee had, with the co-operation of the staff of the Wellcome Laboratories, investigated the cause of these mishaps and had concluded that the virus issued must in some instances have been inert by the time it was used. Having discovered the cause of the trouble, extra tests and safeguards had been instituted and the Committee confidently hoped that the success obtained during the experimental periods will soon be repeated in the general use of the commercial product.

In adopting the Report, the F.D.C. endorsed the opinion of its Scientific Committee that, the cause of sometime failure having been ascertained

XUM

and approved measures having been taken by the manufacturers to avoid future mishaps, the same measure of success should follow the use of the commercial products as was attained during the experimental issue.

The Committee expressed the hope that Masters of Foxhounds, and dog owners would not be discouraged and would continue to avail themselves of the Laidlaw-Dunkin method to render dogs resistant to distemper.

The Council also expressed its gratification that Dr. Laidlaw and Mr. Dunkin have been permitted by the Medical Research Council again to co-operate with the staff of the Wellcome Laboratories in the testing of the vaccine and the virus and they trust this will contribute to re-establishing confidence in what they regard as a valuable means of limiting the ravages of canine distemper.

Among those who were present at the Meeting of the Council which was held by the invitation of the Duke of Portland at 3, Grosvenor Square, were the Duke of Beaufort, Lord Mildmay of Flete, Sir Charles Martin, Colonel Lane Fox, Mr. Edward Barclay, Lord Charles Bentinck, Mr. Eric Parker (Editor of *The Field*), Dr. Landsborough Thomson (Medical Research Council) and Mr. E. S. Grew (Hon. Secretary).

Vivisection of Animals—New Regulations in Prussia.

NEW regulations for the conduct of vivisection which have been issued by the Prussian authorities are greeted with satisfaction by the Deutsche Tierschutzverein, the German equivalent of the N.S.P.C.A.

Experiments on living animals are only to be carried out for the purpose of serious research designed to advance the knowledge, prevention, and treatment of human and animal diseases. They are only to be conducted by trained persons. Vivisection is only to be practised at scientific lectures and demonstrations when necessary for the full comprehension of the subject, and the interesting recommendation is added that repetitions should be avoided by having the operations filmed. That this recommendation can be followed successfully was proved some time ago in Berlin when at an experimental demonstration of a wireless lecture with synchronized film illustrations some remarkable detailed screen pictures of operations were shown to a medical gathering.

Vivisection experiments may only be conducted by university instructors and directors of institutes, and animals of a lower order are to be used in preference if they fulfil the same purpose as animals of a higher order. The animals must be put under an anæsthetic before

XUM

experiments. Exceptions to this rule are only permissible if anæsthesia is incompatible with the purpose of the experiment.

The Deutsche Tierschutzverein welcomes the new decree as the achievement of many years' endeavour and points out that it follows almost word for word a resolution passed on March 13th at a protest meeting of Berlin societies for the prevention of cruelty to animals. The German society's next objective is the incorporation of the Prussian regulations in a Reich law.—(*The Times.*)

THE Committee of Intelligence and Education of the American Veterinary Medical Association have recently recommended the following Veterinary Colleges as "accredited," whose graduates will be officially accepted :—

Alabama Polytechnic Institute, Veterinary Division ; Colorado Agricultural College, Veterinary Division ; University of Georgia, Veterinary Division ; Iowa State College, Veterinary Division ; Kansas State Agricultural College, Veterinary Division ; Michigan Agricultural College, Veterinary Division ; University of Montreal, Veterinary Department ; New York State Veterinary College at Cornell University ; Ohio State University, Veterinary Division ; Ontario Veterinary College ; University of Pennsylvania, School of Veterinary Medicine ; Texas Agricultural and Mechanical College, Veterinary Division ; Washington State College, Veterinary Division.

Parliamentary News

Imported Milk and Tuberculosis.

BRIGADIER-GENERAL CLIFTON-BROWN asked the Minister of Health the amount of liquid milk and liquid cream imported into this country in 1929 ; from what countries they came ; and what precautions were taken to see that they were free from tuberculosis. Mr. Greenwood replied : "I am informed that 58,460 cwts. of milk and 138,604 cwts. of cream were imported into Great Britain and Northern Ireland in

1929. All the milk, except 406 cwts. from Denmark and the Netherlands, came from the Irish Free State. I am sending the hon. Member a statement showing the countries from which the imports of cream were received. Imports of milk from outside the British Islands are subject to examination for tubercle under the Imported Milk Regulations. There is no examination of imported cream for this purpose.

Cattle and Tuberculosis.

DR. HASTINGS asked the Minister of Agriculture if he could say, having regard to the fact that of the 241,000 bovine animals examined during 1929 under the Tuberculosis Order, 1925, 2.8 per cent. only were condemned to be slaughtered, whether all the remaining 97.2 per cent. were entirely free from tuberculosis; and, if not, whether he could give any estimate of the probable number infected.—Mr. BUXTON replied: "The total number of animals on premises, on which cases of tuberculosis were reported under the Tuberculosis Order, 1925, during 1929, was 621,396. Of this total 241,252 animals were examined by veterinary inspectors. Of these, 15,732 animals were condemned and slaughtered, representing 2.8 per cent. of the total number of animals on the premises, or 6.5 per cent. of the total number examined. The remainder were not necessarily entirely free from tuberculosis, but they presented no symptoms of a nature to bring them within the scope of the Tuberculosis Order as to compulsory slaughter. As regards the last part of the question there is no information upon which an estimate could be based of the proportion which might be infected.

Development Fund Grant.

MR. RAMSBOTHAM asked the Secretary to the Treasury the exact use of the grant of £500,000 made by his department to the development fund. —Mr. Pethick-Lawrence (Financial Secretary to the Treasury) replied: "The grant of £500,000 to the Development Fund will be issued in instalments as and when required. The advances (grants and loans) already recommended by the Development Commissioners and approved by the Treasury, includes £65,000 (in addition to £35,000 sanctioned previously) for the rebuilding of the Royal Veterinary College, and £4,250 for the extension of the laboratory at the Cambridge Department of Animal Pathology.

XUM

Correspondence

The Editor of THE VETERINARY JOURNAL.

Trypanosomes in Cattle and Camels in British Somaliland.

IN 1926 I reported the fact that I had demonstrated Trypanosomes in camels, causing a disease known by the Native name of "Gindi" or "Dokkan," which was evidently Surra. This disease had undoubtedly been reported before, further South, but never I think actually in British Somaliland.

Since 1926 I have been gradually collecting more evidence and incidentally the disease has become an economic proposition, and I am commencing treatment with Bayer "205."

The disease is located chiefly amongst two tribes, whose grazing areas are separated by an average of 200 miles, and they do not as far as I can gather inter-marry, and hence the interchange or inter-sale of stock between the two is a remote possibility.

I am at present definitely satisfied that I am dealing with two different types of Trypanosome, the one which up to date I have labelled Type "A" is to my mind undoubtedly Tr. Evansi.

Type "B" is by no means so easily placed in any category, and I am convinced it is an entirely different Trypanosome to Type "A."

Type "A" and "B" are confined severally to the two tribes above mentioned; I have not found a mixture of "A" and "B" in any herd yet.

To add zest to the problem, a few weeks ago a disease amongst cattle, in still another separate area, was reported, the native name of "Melig" being given to it.

On investigation this proved to be Trypanosomiasis, and though I am not absolutely satisfied, I am inclined to the opinion that it is Tr. Vivax.

I see in the current number of the *Tropical Veterinary Bulletin*, March, 1930, Trypanosomiasis is reported from Eritrea.

I am endeavouring at present to find if there is any tsetse area which is within reasonable distance of this country, so accounting for the incidence of the disease in cattle, and then to find the connecting link in the shape of grazing areas and biting flies.

This now definitely places British Somaliland amongst the Trypanosome infected countries, adding another large area to infected Africa.

In passing I would mention that lately instead of working in the field with Leishman stain, I have been working with Geimsa, made up in the same way as Leishman, but while staining using double the amount of water, as advised by Messrs. Burroughs Welcome.

I find I get much more satisfactory results than with Leishman.

T. A. BRYAN COCKSEDGE,

Veterinary Department, Chief Veterinary Officer.
British Somaliland, Burao.

15*th May*, 1930.

KANSAS STATE AGRICULTURAL COLLEGE
Jul 24 '30
LIBRARY

Personal

Appointment of Veterinary Adviser.

THE Secretary of State for the Colonies has selected Mr. R. E. Montgomery, M.R.C.V.S., late Veterinary Adviser to the Governments of Uganda, Kenya, and the Tanganyika Territory, for the appointment of Adviser on Animal Health to the Secretary of State. The creation of this post was recommended by the Committee on the organization of the Colonial Veterinary Services, whose Report was published as Command Paper 3261.

Mr. Montgomery is at present in East Africa, but it is anticipated that he will be able to take up his new appointment within the next few months.

PROFESSOR E. H. WOOLDRIDGE has been unanimously elected as President of the Comparative Section of the Royal Society of Medicine for the Session 1930-1931.

WHILST engaged on Territorial Duty with the Sherwood Rangers at Windmill Hill, Salisbury Plain, Major Charles Hartley, F.R.C.V.S., T.D., of the Royal Army Veterinary Corps, was kicked in the stomach by a horse and died in Tidworth Military Hospital. Major Hartley was a graduate of the London College and was only 44 years of age. During the war he had command of a Mobile Section in France, and for his services he was mentioned in despatches. He succeeded to his father's old established practice in Lincoln and was one of the best known North of England Veterinary Surgeons and a staunch supporter of the Lincolnshire Branch of the National Association. The sympathy of the profession will be extended to his widow and family in their tragic loss.

XUM

MR. JOHN HOWATT, of Great James' Street, Londonderry, veterinary surgeon, who died on December 30th, left personal estate in Great Britain and Northern Ireland valued at £20,918.

THE announcement of the Empire Marketing Board that three fellowships are being offered for research on animal health at the Onderstepoort Veterinary Research Laboratory in South Africa, will be received with great pleasure by the profession.

The successful candidates will receive salaries of £800 to £1,000 a year and free passages to Pretoria, where the laboratory is situated. The fellowships have been established by the Empire Marketing Board and the Government of the Union of South Africa.

One of the candidates appointed to the new fellowships is to make a special study of poisonous plants which at present cause considerable mortality and illness among cattle and sheep.

Another will study invisible viruses which cause a large number of diseases in man, animals, and plants, including foot-and-mouth disease. The third will work mainly on diseases caused by bacteria.

Publishers' Notices

All communications should be addressed to 7 & 8, Henrietta Street, Covent Garden, London, W.C.2. Telephone: Temple Bar 4646. Telegrams: "Baillière Phone, London."

Letters for the JOURNAL, literary contributions, reports, notices, books for review, exchanges, new instruments or materials, and all matter for publication (except advertisements) should be addressed to the Editor.

Copy of advertisements should be in the hands of the publishers—Baillière, Tindall and Cox—not later than the 25th of the month, or if proof is required, not later than 23rd.

Binding Cases for Volume 85 and any other previous volumes can be obtained from the publishers. Price 2s. 9d. post free.

Annual Subscription, 21s. ($5.00 U.S.A. currency) post free.